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ABSTRACT

A longitudinal study of two classes of medical students who entered Tel Aviv and Hadassah medical schools in 1969 follows students through their first year of graduate medical education. A summary of a final project report, this study reviews the continuing change in the students to distinguish the effects of qualities they bring to medical school from those they acquire at various stages of the educational socialization process. The major findings and applications in eight areas are discussed: (1) the development of three elements (people, status, and science) in the physician's role in the course of medical school; (2) the conflicting messages received by students from significant others, and the need for guidance; (3) the need for socialization of physicians as potential health team members; (4) a resistance to family medicine and community practice; (5) traditionalism and stereotyping of women physicians after (but not before) completion of studies; (6) the inefficiency of using role perception as a criterion for medical school admission; (7) the results of narrowing interests to science too early; and (8) advantages found in a break in the study program beween secondary and medical schools. (MSE)

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Israel Study of Socialization for Medicine

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Abstract

This is a longitudinal study of two classes of medical students who entered Tel Aviv and Hadassah medical schools in 1969. They were followed through their first year of graduate medical education. The study maps the continuing change in the students to separate out the effects of qualities the students bring with them to medical school versus those they acquire at different stages of the socialization process. Outcomes are specialty choice and preferred practice location.

NCHSR

RESEARCH DIGEST SERIES

Israel Study of Socialization for Medicine

by
Judith Shuval

October 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Office of the Assistant Secretary for Health
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Foreword

Rarely in professional education research has it been possible to study a cohort of students as intensively as Judith Shuval has done in this report on medical education in Israel. The National Center for Health Services Research supported the study from 1969 through 1974 under P.L. 480 and from 1974 to 1976 under Grant HS 01857. This enabled Professor Shuval to obtain data on these students from their applications to medical school, which, in the Israeli system, includes premedical education, through their first year of graduate medical education.

The significance of this research for the United States relates to the impact of the health services delivery system on the expectations of medical students. Virtually all physicians in Israel work in salaried care clinics of the Kupat Holim, the comprehensive health insurance system of Israel. Student expectations are fairly circumscribed, therefore, regarding monetary gains. Status is centered on hospital employment and only those who fail to achieve this status go into primary care clinics. The country with one of the highest physician to population ratios in the world still is characterized by a lack of physicians for primary care at the community level.

There are lessons to learn from such international studies as we embark on efforts to redistribute health manpower and to develop national health insurance plans.

Gerald Rosenthal, Ph.D.
National Center for Health
Services Research
October 1978

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This issue of the *NCHSR Research Digest Series* by Judith T. Shuval, Ph.D., summarizes her work at Hebrew University, Hadassah Medical School, Jerusalem, Israel. The research was performed for NCHSR under grant No. HS 01857.

The final report of the grant, 319 pages, is for sale to the public from the National Technical Information Service, Springfield, VA 22161 (703/557–4650), and may be ordered as PB 284 466 in either paper or microfiche.

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Settings and goals

Why Israel? 1

Why another study of medical education? And why of all places in Israel?

The answers to these questions focus on qualities that Israel shares with other Western societies as well as on certain of its unique features with respect to medical education and the delivery of medical care. The common qualities are sufficient to provide a basis for generalization of certain findings to other cultural settings so that Israel serves as an additional case in the list of in-depth studies of professional socialization. Some of the unique features that characterize Israel today are likely to develop or are in the process of developing in the United States, in Western Europe and in other societies. This research can therefore provide an insightful "future look" at what medical education may eventually be like there. This study, while based in Israel, aims to serve both as a link in a chain and as an innovative contribution to the field of socialization for medicine.

The structure and timing of medical education in Israel parallel the systems in both Eastern and Western Europe which generally start immediately following secondary school and last six to seven years. The secondary school background from which Israeli students come to medical school bears strong structural similarities to the systems prevalent in much of Western Europe. The academic type of secondary school in which most medical students have previously studied is a selective, streamed system which admits candidates after inappropriate ones have been weeded out and prepares them for the nationally administered matriculation examinations. About 15 percent of the age cohort complete these examinations annually and of these only those with an average of 8 or over may apply to the medical schools considered here. It may thus be seen that severe selection has taken place early in the game, before the individual puts in his application for medical school.

An additional similarity to their European counterparts is seen in the fact that Israeli medical students have been heavily exposed to the sciences at an early age: 80 percent studied in the biology or math-physics stream in secondary school. This results in a relatively early narrowing and focusing of interest in the sciences with only limited exposure to the humanities or social sciences. This pattern reflects an earlier trend to specialization in Europe and Israel which contrasts with

the United States where decisions concerning career lines and specialization of interests take place at a somewhat later age. Before entering medical school, U.S. students are exposed to an undergraduate college program which usually includes at least some non-science subjects even if they have majored in the sciences.

On the other hand, the curricular content of medical education in Israel as well as its dominant value system are oriented to the United States which has strongly influenced the medical profession in Israel in recent years. There is much interchange of scientific knowledge and personnel among professionals; many students manage to travel and
2 some do electives in the U.S. Needless to say, much American influence has also rubbed off on European medical practitioners particularly with respect to scientific contributions to the profession. Thus the principal professional model toward which socialization is leading approximates the American and Western European models fairly closely and the major mechanisms of training are similar to those prevalent in those countries. In fact, it is likely that the basic social and psychological processes underlying professional socialization are probably fairly universal and are not fundamentally culture bound. For these reasons many of the findings of this research are generalizable.

Virtually all physicians in Israel work in salaried posts. To the extent that private practice exists, it is marginal and supplementary to the dominant system of medical care delivery in which there are organized settings of ambulatory or hospital care in which groups of physicians, working on a salaried basis, deliver the service. The trend in the U.S. in recent years has been away from solo practice and increasingly toward the bureaucratization of medical practice in large scale "health factories" (American Medical Association, 1975; McKinlay, 1967). A similar trend is evident in much of Europe. Thus the present Israel salaried system exemplifes, in a structural sense, the probable future direction of medical practice in these countries.

Israel needs primary care on the community level. In this aspect it is similar to many other countries where such care has been conspicuous by its absence, but where there is a real concern with delivery of medical care to large, often heterogeneous or deprived populations. Like other societies Israel is struggling against powerful odds to meet the problem of a system of medical education that highlights hospital practice as well as technology-based medicine as an ideal, while tending to down-grade less "sophisticated" community based practice. Students who internalize this clearly delivered message tend to focus their career hopes on elite hospital practices. There is only marginal exposure to family practice during the course of medical education and it is therefore not surprising that students enter a variety of specialities but relatively few have opted in the past for family practice. In Israel this issue is exacerbated by a variety of problems in the primary care clinics (Shuval, 1970); heavy patient load, poorer laboratory facilities and technical equipment, fewer colleagial contacts, fewer scientific resources, and inevitably fewer "interesting" cases.

The existence in Israel of a comprehensive health insurance system (Kupat Holim) which provides full medical care to more than 80 percent of the population serves as a general background to medical education. Both students and teachers are aware that fee-for-service is essentially a marginal pattern and most segments of the population expect and are entitled to full medical care, including drugs and other expensive services, with minimal or no direct cost. Such a structure sets up systems of mutual expectations of deliverers and recipients of medical care that differ from those prevalent in systems in which there is no medical insurance or incomplete coverage. As comprehensive insurance schemes become more widespread in the United States and cover larger portions of the population in Europe, certain aspects of such schemes will come to approximate the Israeli system. The Israeli experience can thus prove useful in demonstrating how medical education functions in the context of this type of delivery system.

The setting and design of this study provide certain unique features of interest to medical educators and practitioners outside Israel. The longitudinal design focuses on classes that entered two medical schools in 1969; the research provides systematic data on the same populations which have been under constant study for a full six-year period. Such a design permits a detailed mapping of change patterns during socialization and their pin-pointing to specific stages in the process. This long time-perspective permits a study of the early roots of processes which in the U.S.-based research have been investigated after students complete their first degree, when they enter medical school (Bloom, 1971; Merton, 1957; Fredericks & Mundy, 1976). Since the formal educational process of medical education begins in Israel after secondary school with no intervening first degree program, and lasts six years, the research provides insight into a considerably longer process of socialization and can examine early patterns which may be relevant to subsequent professional practice. No such long-range design has been attempted in Europe to date.

Some of the processes under study will be examined on a cross-occupational basis, comparing socialization for medicine with socialization for other health occupations. Such a comparative analysis highlights features which medical socialization shares with socialization for other health occupations as well as its unique qualities.

In fact, this research is still incomplete. The real outcome variables of medical socialization may be seen during the practicing physician's developing career. Indeed it is our intention to pursue this research on into the careers of the students reported on in this volume. However, that is a long range effort and the present report on the first six years represents a necessary segment of the full process. Outcomes of medical education considered during this period of time may not be the same as those characterizing later stages in the physician's career, but they are of interest in themselves from a different, shorter-range perspective. Indeed, understanding the processes which occur during the period stretching from application to medical school until comple-

tion of formal training is a necessary condition for the subsequent analysis.

Goals

The principal objective of this research is to trace the development of certain outcomes of medical education through the course of professional socialization, starting when students are still laymen and unexposed to the socialization process all the way to the endpoint of formal socialization. The outcomes on which we will focus concern the central norms of the professional role and career preferences as expressed in
4 terms of specialty choice as well as preferred locus of eventual practice. The study follows students through the end of year six that immediately precedes internship.

The purpose of a close, continuous mapping of change is to separate out the effects of qualities which students import into medical school from orientations acquired at different stages during the socialization process. Thus the analysis is geared to distinguish the relative contributory effects of (a) variables imported into the training situation, (b) variables activated *during* formal training, and (c) variables that become relevant only *after* formal training is completed. This analytic procedure indicates which antecedent variables are likely to be relevant to outcomes and when their effect is likely to take place.

The outcomes at this point may be viewed as early outcomes of medical education and they may well exhibit further change in a variety of directions during the course of practice. Nevertheless these early outcomes are themselves of interest. They are the result of a long and complex process that is a function of elements stemming from three different temporal and situational contexts: factors in the individual's life history in the period preceding formal socialization, events and experiences that took place inside the socializing institution during the six-year period as well as events and experiences that took place in the wider social system during the latter period and which impinged directly or indirectly on students undergoing socialization. Elements from each of these three contexts will be considered in the analysis and will be defined in terms of quantifiable variables or in terms of social and cultural themes characterizing the macro or micro social system under study.

Our interest will focus on the structural, social and cultural factors that operate in these three areas rather than on the idiosyncratic characteristics of each individual—although the latter undoubtedly also play a role in socialization. In this sense the study is sociological rather than psychological in its orientation.

The two medical schools: summary of similarities and differences

The curricula of the two medical schools are quite similar and the differences between them are more in the timing of certain subjects than in their content. However, there are a number of differentiating

features that are a result of historical and ideological differences between them.

The Hebrew University Medical School is an older school which has established its reputation for quality training and original research for over twenty years. Many of its graduates have attained considerable status in Israel and abroad and occupy leading medical posts in the country. The Tel Aviv Medical School began admitting first year students in 1966 and its graduates are only beginning to establish its reputation. Its staff is composed partly of graduates of the Hebrew University and its Medical School and of other qualified scientists many of whom had well established careers and reputations at the time the school was opened.

On its founding, the Tel Aviv Medical School stated that one of its major goals would be to train physicians for community care. With this goal in mind it included a larger program of behavioral sciences in its pre-clinical curriculum at the time the study was initiated. The Jerusalem school has never made this claim overtly; its reputation and image tend to emphasize its research achievements.

A major structural difference between the schools appears in the clinical period of training and is associated with the nature and number of affiliated hospitals in which training takes place. In the Jerusalem Medical School the Hadassah Hospital is the one dominant training institution which serves the Medical School and the five affiliated hospitals are used for training in only a few departments. Despite the fact that students may be exposed to other hospital settings, they all feel strongly affiliated with the Hadassah Hospital which provides the dominant clinical experience in terms of time spent in its departments. In the Tel Aviv Medical School clinical training is spread among departments in fifteen affiliated hospitals and, while students spend more time in some than in others, there is no one dominant hospital in which training is concentrated. Such a setting exposes students to a greater variety of socializers and clinical experiences so that their training is based on a more diffuse set of messages (Bentwich, 1965; Davis, 1949; Dostrovsky, 1949; Dostrovsky, 1959; Grushka, 1968; Gjebin, 1959; Ha'aretz, 1964; Prywes, 1956).

A unique feature of the Israeli system is the fact that the medical schools select their students from two separate pools of candidates: the army veterans and the army reservists. It will be recalled that most young people in Israel complete their army service before continuing their higher education. However the military authorities require the medical schools to accept a predetermined number of high school graduates immediately upon completion of their secondary school education with the intention that these "army reservists" will fulfill their obligatory national service as army physicians after completing medical school. Before obtaining permission to apply for medical school, potential candidates for the reserve undergo a pre-selection process by the army and only those with high scholastic achievement records in high school who also meet the army's stringent physical

fitness requirements obtain permission to apply for the medical school as army reservists. Army reservists are instructed to apply to both medical schools but not all such candidates fulfilled this requirement. However, as will be seen in this chapter, the large common pool makes it problematic to compare pools of army reservist applicants to the two schools.

Since the medical schools know in advance how many such army reservists they will admit, they select these students separately from the pool of army reservist applicants to each school. The other candidates for medical school, largely men and women who have completed their
6 national service, form a second pool from which the schools select. Each medical school utilizes the same admission criteria for the two sub-sets of applicants.

In view of this procedure it is evident that differences in the pool and eventually in the groups admitted may originate in differences between the army reservists and the army veterans who differ fundamentally in age and exposure to army experiences.

In sum, the differences between the reservists and the army veterans are not only a function of the age differential and the greater exposure of the latter to the maturing effects of army experience. In fact, the reservist applicants stem from a somewhat different segment of the society: this is seen in their higher socio-economic status, stronger religious orientation, "elite," science-based high school background and strong academic achievement in secondary school. They also tend to come from extended families in which there are physicians. On the other hand the decision to apply for medical school is at least partly a function of the age difference between the groups: the younger reservists admit more parental influence while the more mature veterans state that they discussed their occupational decision and consulted with physician acquaintances in making up their minds, and were more influenced by friends who had already begun to study medicine. But insofar as their image of the profession is concerned and their career plans, there are few differences between the two groups.

A comparative portrait of the two classes is presented in the following table.

The two classes: a comparative portrait (percentages)

General background	Tel Aviv Medical School	Jerusalem Medical School
	Percentages*	
Home community		
Three major cities	59	48
Other urban communities	27	36
New towns	6	8
Villages & Kibbutzim	4	7
Arab towns & villages	4	1
Sex		
Females	21	26
Age		
19 and under	61	54
20–23	35	46
24 and over	4	—
Country of origin		
Europe**	90	89
Near East or North Africa***	1	8
Other	9	3
Father's education		
University graduate	40	26
High School*	25	25
Did not complete high school	31	47
Other	4	2
Socio-economic status* **		
High	52	40
Medium	32	36
Low	16	24
Self-defined religious observance		
Extremely orthodox	3	9
Traditional	15	10
Somewhat traditional	46	43
Non-observant	36	38
High School Background	*Percentages**	
Type of high school		
Elite****	32	37
Good	27	23
Other	41	37

* Percentages do not always add up to 100 since all categories are not always presented.

** Includes those who immigrated from a European country or are the children of such immigrants.

*** Includes those who immigrated from a North African or Near Eastern country or are the children of such immigrants.

*** Based on father's education and occupation.

**** "Elite" high schools include those exercising highest standards in selecting students for admission and having a reputation of high scholastic requirements.

The two classes: a comparative portrait (percentages) *continued*

	Tel Aviv Medical School	Jerusalem Medical School
High School Background	***Percentages****	
Curriculum stream		
Math-physics	20	34
Biology	53	45
Humanities	24	19
Other	3	2
Professional commitment		
Age medicine first considered seriously		
Before 14	14	10
14–17	75	72
18+	11	18
"Never considered an occupation other than medicine"	19	8
"Certain that medicine is the only occupation from which I will gain satisfaction"	27	27
Early contact with medicine and decision making	***Percentage****	
Family contact		
Physicians in nuclear family	14	4
Physicians in extended family	55	56
No physicians in family	31	40
Early contact with profession		
"Knew more than 5 physicians personally	50	27
"Discussed the nature of the profession often with physician acquaintances"	53	32
"Consulted with more than 3 physician acquaintances about application for medical school"	18	12

*Percentages do not always add up to 100 since all categories are not always presented.

The two classes: a comparative portrait (percentages) continued

	Tel Aviv Medical School	Jerusalem Medical School
Early contact with medicine and decision making	*Percentage* *	
"Influenced my decision to study medicine" **		
Physician acquaintances	38	29
Friends who are medical students	14	16
Parents	18	9
Family members in medicine	8	8
Books, movies, plays, press	4	9
Family members not involved in medicine	4	6
High school teachers	4	5
Family tradition	5	3
Friends who are not medical students	–	2
Image of the medical profession		
"Modern medicine demands even more idealism than in the past"	22	24
Normative role components of the competent physician ***		
People	1.7	1.8
Science	2.1	2.1
Status	3.5	3.5
"Certain that family medicine is needed in Israel"	74	74
Uncertainty of Medicine		
"Two doctors can have different opinions"	39	31
"Doctor frequently uses guesswork and intuition"	13	18
"Doctor can't be certain of the effects of a specific drug on a patient"	14	15
Importance of patient's social background		
"Very important"	43	42

* Percentages do not always add up to 100 since all categories are not always presented.

** Influenced my decision "a lot."

*** Measures based on mean scores of items with categories ranging from 1 (Component is very important) to 5 (Component is not important at all).

The two classes: a comparative portrait (percentages) *continued*

Career Plans	Tel Aviv Medical School	Jerusalem Medical School
	Percentages*	
Community clinic**	5	3
Private practice	5	3
Hospital	82	75
Research, teaching institution	8	19

10

* Percentages do not always add up to 100 since all categories are not always presented.

** In Israel a career in a community clinic almost always involves a salaried post working for one of the medical insurance funds such as Kupat Holim.

Role transformation

Professional socialization may be viewed as a special form of adult socialization. Brim has noted that adult socialization generally does not focus as much on basic values as does childhood socialization, except when it deals with the training of costly manpower (Brim, 1966). Medical personnel undoubtedly fall under this category and there is good reason to believe that professional values and norms are indeed internalized by medical students during the course of their socialization, especially during the clinical period.

We assume that professional socialization is not necessarily a smooth, single-directional process, but is characterized by intermittent conflict and reconciliation between socializers and socializees. In this sense it is similar to earlier periods of socialization. There is movement forward into the new role, but also regression into more familiar old roles (Gessell and Ilg, 1943). Olesen and Whitaker (1970) have pointed to the overemphasis on the "smoothness" of socialization: in fact the process is characterized by considerable conflict and ambiguity in terms of the messages delivered and picked up. In the long run, orderly socialization naturally requires that the balance of these two directional movements will favor the forward thrust. However, the two patterns may occur in temporal proximity and may even be instigated by the same socializing agent.

Students are active agents in the process, selecting and rejecting from the numerous stimuli to which they are exposed during formal socialization. Not only are there "models" to be emulated but there are "anti-models" whose style is to be avoided.

Formal Socialization: seven years of medical school: clearly defined boundaries.

Formal medical socialization in Israel can be divided into four sub-periods:

- B_1—pre-medical: one year
- B_2—pre-clinical: two and a half years
- B_3—clinical: two and a half years
- B_4—internship: one year

The pre-medical and pre-clinical sub-periods (B_1, B_2) are characterized by the following qualities:

- little professional role playing by students
- strong academic emphasis in traditional sense; grade models: scientists, few clinicians
- students tend to put off immediate gratification of professional interests and role playing
- style of teaching—similar to secondary school experience

Characteristics of the clinical and internship periods (B_3, B_4) are as follows:

- relatively unstructured learning situation
- need to confront "real" clinical patients and play responsible professional role
- confrontation with clinical reality which needs to be reconciled with expectations
- many agents of socialization: clinical teachers, nurses, patients, other hospital personnel, other students
- inconsistent messages from different socializing agents
- mixture of authoritarian and "colleagial" relations with teachers

Design strategy

These considerations dictate the basic design of the research and the variables included. The study is a longitudinal one focusing on two classes of medical students who entered the Hebrew University-Hadassah Medical School and the Tel Aviv University Medical School in 1969. These students were under continuous study for the full six-year period of their formal study as well as during their internship. Parallel research following a complementary design and including many of the same variables was carried on in the Schools of Dentistry and Pharmacy of the Hebrew University and at the Henrietta Szold School of Nursing. The present volume focuses on socialization for medicine.

The following types of data were collected on a continuous basis, since 1969, for the two populations.

1. Observation *in situ* of the cultural context of teaching and learning situations, both formal and informal, by teams of anthropologists and sociologists. Detailed protocols, structured around a set of predefined categories, were geared to add a qualitative dimension to the systematic questionnaire data.
2. Systematic attitudinal and factual data gathered by means of questionnaires completed by all candidates for admission before entry, T_0, and by students at the termination of each year of study: T_1, T_2, T_3, T_5*, T_6, (T_7)**. Selected variables were systematically repeated at intervals to permit measurement of change. In addition data were

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* Due to a physicians' strike and The October War, T_4 was missed.

** Analysis from T_7 are not included in this report.

gathered on variables idiosyncratic to a specific year of study. Grades of students at the end of each year were recorded.

3. Interviews with samples of students to gain in-depth information on selected subjects which were not amenable to questionnaire techniques.
4. Interviews with teachers of all levels, both pre-clinical and clinical, who have contact with these students. The interviews were structured to parallel parts of the student questionnaires in order to permit comparisons of socializers' and socializees' attitudes and orientations.

The long range longitudinal design of the study makes possible the special approach of the analysis and provides for strategies that are unique to this form of research. Starting data collection at the time of application permits analysis which separates pre-socialization variables from variables which are introduced in the course of socialization. Repeated measurements of the same variable on the same population at different times permits a dynamic analysis of processes over time.

Change during socialization examined from a variety of viewpoints will be considered in terms of its microprocesses as well as its overall patterns. The following strategies and techniques will be utilized separately and jointly in the course of the analysis:

A. Examination of aggregate change in the group by use of means and distribution of variables at different times.

B. Analysis of patterns of individual change by use of correlations between times. In addition to use of zero-order correlations, we have utilized models of regression analysis in a multivariate approach when assumptions of linearity seemed justified. The time sequence of variables measured at various time intervals during socialization permits assumptions of causal ordering when this is warranted by the content of the variables. This strategy permits a consideration of several types of subprocesses during socialization:

(1) Primacy: extent to which attitudes or behavior patterns imported into medical school from the lay community persist to later stages and, most important, to the outcome stages.

(2) Continuity: extent of smoothness or discontinuity between various stages of the socialization process.

(3) Crystallization of outcomes: stage or stages at which the outcomes of medical education appear to be determined.

C. Analysis of transition processes between contiguous or distant times by means of turnover tables. Following the Lazarsfeld approach as well as the tradition of stochastic processes (Markov chain analysis and analysis in the Coleman tradition), we will examine sub-segments of the change process and through such micro-processes obtain a picture of the overall patterning. Markov chains and Coleman's approach have been used only when it has seemed appropriate to assume that the process at a given stage is independent of earlier or later stages (Col-

eman, 1964; Davis, 1963; Kemeny and Snell, 1960; Singer and Spilerman, 1976).

D. Analysis based on data collected during systematic observation of the socialization process *in situ*. Trained observers watched students during formal and informal socialization as well as during leisure-time activities. Attention was focused on the values and norms of the student culture, on patterns of inter-student and student-teacher interaction, on group structure and processes within the class, on feelings expressed with respect to medical school and the future professional role, on attitudes toward other medical personnel and patients. This material is presented in a separate chapter concerning cultural themes in medical education and is also woven into the quantitatively-based chapters in order to anchor interpretations of the data in the reality of the culture context.

Major Findings

The following are some of the major findings and applications of the study.

Development of the physician's role: people, status and science components

Students perceive the physician's role to structure in terms of three dominant role components. We have termed these the People, Status and Science components of the physician's role. The People component concerns qualities which relate to the physician's interaction with others on both a colleagial and client level. the Status component includes traits which focus on the practitioner's place in the organization of the profession with particular reference to its hierarchical structure. The Science component relates to knowledge, research and other cognitive areas. It has been shown that students show a remarkable similarity and consistency over time during socialization in the priority they attribute to the three components: the People component is viewed as most important, Status is viewed as lowest in priority, while Science falls between the two.

This order of priority has been found among students of three other health occupations (dentistry, pharmacy and nursing) with similar consistency during all stages of socialization. While there are differences in the absolute emphasis placed on these components by individuals preparing for different health occupations, the parallel ordering in priority suggests a strong common basic orientation among these groups which could be exploited with a view toward future collaboration and team work among them.

Among the medical students there is a consistent decrease during socialization in the absolute emphasis placed on the importance of the People and Science components,—although these components retain their positions of relative priority, as noted above. The absolute emphasis on the importance of the Status component does not change during socialization and it therefore acquires a somewhat stronger relative position in the light of the attenuation in the other two components. We may therefore conclude that the organizational aspects of practice, although viewed as less important than the interaction and scientific components, are nevertheless acquiring a relatively greater importance as socialization proceeds.

Multiple socializers—conflicting messages

This research has highlighted the complexity of the socialization process by pointing to the large variety of socializers to whom students are exposed and to the heterogeneous, often conflicting messages they deliver. We have noted the various roles and statuses of socializing agents: senior and junior clinicians, residents, nurses, other medical students (both advanced and peers), patients, aides, technicians and others. It has generally been assumed that the senior physician, the star, sets the tone and serves as the dominant model for students undergoing socialization. This assumption has been challenged by the present research in view of the large number of significant others that play critical roles in socialization. There is also evidence that some physicians serve as anti-models for students.

What appears to be needed is some direction for students, especially during the clinical period of training, to guide them among these conflicting messages.

Team Practice

With the growing emphasis on a team approach to medical care, it has become increasingly important to consider relations among team members as well as means of preparing such members for practice involving task differentiation and cooperation. While dentists and physicians are not the most frequently found members of the same health team, there are nevertheless areas of common interest which require their cooperation in health care. Moreover, the joint socialization observed in this research of these two groups of practitioners during their first three years of professional training can shed light on how such ventures might succeed with other combinations of health occupations.

The findings suggest that basic professional goals and orientations tend to be quite similar in the two groups observed. Furthermore, primary relations and friendships cross-cutting the health occupations were frequent during the first three years when students were studying together and many persisted subsequently when the curricular programs separate. Nevertheless, such joint exposure does little to diffuse the basic stereotypes that prevail concerning the two professions which structure the status relations between them. Partly this is bolstered by differential admissions policy which, by its more severe selection of medical students, confirms the image that dental students on the whole are less successful academic achievers. The system of practice which is primarily private for dentists and salaried for physicians tends to confirm the cynical stereotype which suggests that dentists are more concerned with material rewards than are physicians.

This study, therefore, indicates that joint programs of socialization can make some contribution to better understanding and reinforcement of common orientations of eventual team members, but struc-

tural factors such as admissions policy and the nature of the system of delivery impinge on the socialization process and play a critical role in determining status relations among practitioners as well as their professional image of each other.

Another finding of the research concerns the relationship between socialization in authoritarian hospital structures and the role of the physician as an eventual member of a health team. We have seen from the Israeli findings that a socialization setting in which students, interns, and house doctors—in that order—are subordinate to an authoritarian professor, tends to create an atmosphere in which subordinates wait anxiously for the moment when they can exert power and influence. Such a model of relationships may thus be transferred on an intergenerational basis from socializers to students. While the health team undoubtedly requires a leader, it would seem to be doubtful whether fruitful intermember relationships can be structured in this manner. Furthermore there is reason to believe that other members of the team—paramedicals and professionals—will in the future be characterized by higher levels of education and professional commitment so that a more equalitarian relationship among members of such a health team will be called for.

Family medicine and community practice

There is a growing awareness among students of the importance of family medicine in Israel but little translation of that awareness into personal career choice. Students appear to be increasingly sensitive to the need for practitioners in this field as socialization progresses but at the same time to be saying that "it's important but it's not for me. . ." In fact less than 10 percent express a preference for family medicine at the end of year six nor was the proportion ever much higher at earlier stages of training. Furthermore it appears that expression of interest in this career line, when it does occur, is an uncertain one with little commitment so that there is some reason to doubt whether it will in fact be carried out.

Not only family medicine but any community-based practice is shunned by students. The structure of the delivery system as well as the socialization process itself interact in causing this pattern. Students are exposed almost exclusively to hospital-based practice and even when some external exposure takes place they are led to the unambiguous conclusion that "real" medicine is practiced in the hospital. There is a certain denigration of the community-based clinics where, it is often openly stated by leading teachers, serious, high quality medicine cannot be practiced. In part this image reflects the real structure of the Israeli delivery system which is plagued by excessively high utilization rates, a heterogeneous patient population, and numerous organizational problems (Shuval, 1970). Furthermore "interesting" medicine is almost by definition hospital medicine (Mumford, 1970).

The proportion of women in Israeli medical schools is lower than in the Soviet Union or Eastern Europe but similar to many West European countries. In the population studied about 20 percent of the students are women which is similar to the proportion in many U.S. medical schools today but is larger than it was in 1969 when the present population started training. This research suggests that sex role differentiation can be largely broken down within the confines of the formal socialization process. The chances for such lack of differentiation would seem to be best if women and men admitted to medical school are approximately equal achievers and such equality is more or less maintained over time during formal socialization. Over or under achievement of a specific, visible group tends to lead to labeling in terms of familiar stereotypic characteristics. The data show similarity of men and women on virtually all professional attitudes with little evidence for changes in this general pattern over time. All women students envisage a combination of career with family and children; few are anxious about this prospect or expect particular difficulties in making that combination.

Medical school effects an homogenizing process during socialization when differences between sub-groups existed before entry. Thus we have seen that initial differences between men and women, high and low socio-economic groups, or younger and older students which existed before exposure to medical school, disappeared fairly rapidly during the course of socialization.

However, once formal socialization is completed and career decisions are imminent, a good deal of traditionalism invades the system apparently in response to what are perceived as the constraints of the "real" world. This is expressed by women opting for the more traditional specializations. Women select pediatrics with increasing frequency as socialization proceeds, accepting this field as a traditional female stronghold among medical specialities which is congruent with the child-care aspects of the nonprofessional female role. Similarly virtually no women opt for surgery, even at the fantasy stage, when constraints of the real occupational world are minimal and imagination can soar.

Women also accept lower status community practice rather than more prestigious hospital careers. Such voluntary limiting of options may be less "voluntary" than meets the eye and is frequently a response to traditional patterns in which husbands' careers are given higher priority while the wife's choices are adapted to his.

We thus see that women are generally prepared to undertake professional practice on much the same terms as men. Indeed, their training strengthens expectations of full equality. Until the overall social system adapts itself to such universalism with respect to career choice, we can expect some frustration among women whose expectations are for freedom of choice.

Concerning selection of medical students

Selection of students for medical school in terms of scholastic achievement, intelligence and personality traits is fairly widespread. The dilemma in this area concerns the correlation of such variables with later outcomes of socialization. What is more, the timing definition and measurement of desired outcomes remain a thorny problem on which opinions differ considerably.

Evidence from this research indicates that attitudes of students concerning the importance of the role components of the practicing physician measured at the start of socialization are only weakly related to such attitudes at the end point of formal socialization. This pattern suggests that there is little to be gained in considering students' perception of the role components of the practicing physician as a criterion for admission. This is because so many shifts apparently occur in these attitudes over time that prediction is poor from the start to the end of socialization.

Additional research is needed to determine how general this pattern is. If it is shown to apply to other attitudes as well, these may also be thought of as inefficient means of selecting students for medical school.

Early narrowing of interests

The Israeli secondary school system, like its European counterpart, is structured to narrow students' academic interests as early as the tenth or eleventh grade of secondary school, by requiring a choice of programs specializing in sciences, humanities, languages or social sciences. In the United States where electives in secondary school and college are available and acceptable, future medical students also tend voluntarily to concentrate early in the sciences on the correct assumption that such specialization will improve their chances of gaining admission to medical school.

This early narrowing of interests serves to limit students' openness to curricular material that does not fit the "hard science" model. It might also serve indirectly to strengthen the commitment to science and research while weakening concern with person-oriented medical practice. This orientation also tends to reinforce the notion that hospital rather than community practice is a preferable career line.

Medical schools, in reconsidering their admission requirements, could make it known to potential applicants and to secondary school authorities that admission is not necessarily dependent on a science specialization and that students with wide academic interests including background in the humanities or social sciences stand an equal—or even better—chance of gaining admission to medical school.

Hiatus between secondary and medical schools

Evidence from the present study suggests that there are advantages in students taking a break in their study program before starting medical school. National service, along the Israeli example, is of course not the only style in which this can be accomplished. Nor does national service necessarily need to be under army auspices. What does seem important is that individuals take a breather from secondary school before they enter into a long, arduous and heavily committed field such as medicine. The data in this study lend confirmation to the notion that a 2 or 3 year break does a great deal to advance a young person's image of himself, his aspirations and the seriousness with which he approaches his goal. There is widespread consensus on this among pre-clinical and clinical instructors as well as among students.

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16. Abstracts

This is a longitudinal study of two classes of medical students who entered Tel Aviv and Hadassah medical schools in 1969. They were followed through their first year of graduate medical education. The study maps the continuing change in the students to separate the effects of qualities the students bring with them to medical school from those they acquire at different stages of the socialization process. Outcomes are specialty choice and preferred practice location.

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